

## Cisco Compact Forward Fiber Deep Node A90098

The Cisco Compact Forward Fiber Deep Node is a small size fiber node that is well suited for use in forward path only, fiber deep applications. The operating frequency range is configurable to be either 862 MHz or 1 GHz depending on applications.

The node can be configured for either single or dual RF output ports by rotating an internal signal director. The single RF output level of the node reaches up to 114 dB $\mu$ V. Built-in attenuators and equalizers can be set without plug-ins. The node also provides a LED display with two digits which displays the optical input power.

This node is designed to be used in specific network architectures that incorporate broadcast video distribution along with an Ethernet overlay for the return path. The node's large optical input range and high RF output helps reduce the number of active network elements in large MDUs. The node has an optical AGC circuit embedded. AGC covers a wide optical input range of -6 to +2 dBm at 114 dB $\mu$ V for both 862 MHz and 1 GHz.

**Figure 1.** Cisco Compact Forward Fiber Deep Node A90098



### Features

- 114 dB $\mu$ V output power at 862 MHz and 1 GHz (1 output port)
- Simple adjustment jumper - No separate accessories required
- 2-digit LED display for optical input level
- Single or dual RF output ports configurable with a signal director
- AGC optical input range of -6 to +2 dBm

Figure 2. Overview

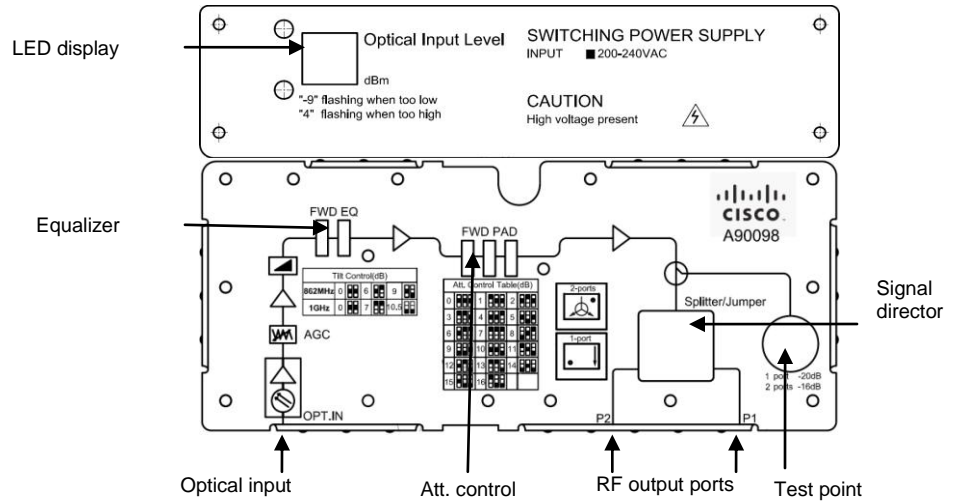
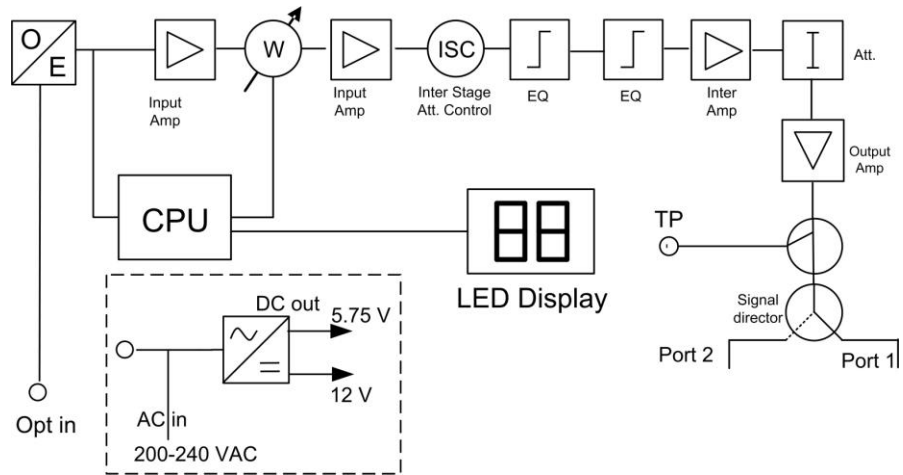


Figure 3. Block Diagram

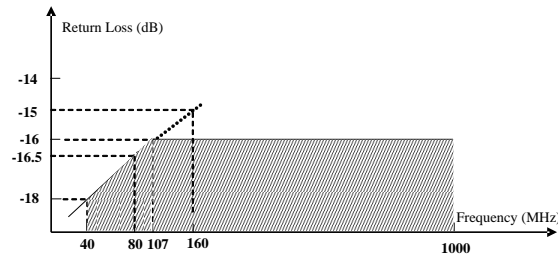


**Specifications**

Item	Value		
<b>General</b>			
Optical Wavelength	1100 to 1600 nm		
Maximum Optical Input Power	+10 dBm		
Optical Input Power	-6 to +2 dBm		
AGC control stability	±1 dB		
Equivalent Input Noise (EIN)	≤8 pA/Hz		
Frequency Range	45 to 862 MHz 45 to 1000 MHz		
Number of outputs	1 or 2 outputs (with signal director)		
Output Return Loss <sup>1</sup>	≥16 dB @ 45-107 MHz, (18 dB @ 40 MHz reduced 1.5 dB/octave) ≥16 dB @ 107-1000 MHz		
Optical Return Loss	≥45 dB		
Main Output	114 dB $\mu$ V		
CSO	NTSC	PAL D/K	CENELEC
	61 dB <sup>2</sup>	62 dB <sup>3</sup>	60 dB <sup>4</sup>
CTB	NTSC	PAL D/K	CENELEC
	62 dB <sup>2</sup>	65 dB <sup>3</sup>	60 dB <sup>4</sup>
CNR	51 dB <sup>3</sup>		
Flatness	±0.75 dB (-4 dBm ≤ Optical Input Power ≤ +2 dBm)		±1 dB (-6 dBm ≤ Optical Input Power < -4 dBm)
	0 dB, 6 dB, or 9 dB @ 45-862 MHz 0 dB, 7 dB, or 10.5 dB @ 45-1000 MHz		
<b>Electrical</b>			
Power Supply	200 to 240 VAC		
Power Consumption	16 W		

**Notes:**

1. Return loss value is located in the shadow area:



- RF input: NTSC, 79 ch, 6 dB tilt, 114 dB $\mu$ V output @ 862 MHz, 3.0% OMI, Optical Input Power: -6 ~ +2 dBm.
- RF input: PAL D/K 59 loaded from 47 to 550 MHz and QAM from 550 MHz to 1 GHz. Prisma II transmitter (10 dBm). Optical link loss: 10 km fiber + optical attenuator. 7 dB tilt, 114 dB $\mu$ V output @ 1 GHz, Optical Input Power: -1 dBm.
- RF input: CENELEC, 42 ch, 6 dB tilt, 114 dB $\mu$ V output @ 862 MHz, 3.0% OMI, Optical Input Power: -6 ~ +2 dBm.

**Specifications, continued**

Item	Value
<b>Environmental</b>	
Operating Temperature	-25 to 55 °C -13 to 131 °F
Storage Temperature	-40 to 70 °C -40 to 158 °F
Safety	CB60065, EN 60728-11
EMC	EN50083-2:2006 IEC/EN 61000-3-2:2000 + A2:2005 IEC/EN 61000-3-3:1995 + A1:2001 + A2:2005
CB Certificate	IEC 60065 with National Deviation
CE Compliant	EN 50083
Water/Dust Ingress Rating	IP 43
<b>Mechanical</b>	
Optical Connector	SC/APC
RF Connector	F-female
Test Point Connector	F-female
Housing Material	Aluminum with coating
Dimensions (H x W x D)	145 x 236 x 89 mm 5.7 x 9.3 x 3.5 in.
Weight	2.0 kg 4.4 lb

**Ordering Information**

Description	Part Number
Cisco Compact Forward Fiber Deep Node A90098, EU Power Cord	A90098.112
Cisco Compact Forward Fiber Deep Node A90098, China Power Cord	A90098.122
Cisco Compact Forward Fiber Deep Node A90098, UK Power Cord	A90098.132



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